


Palliative Care Emergencies

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Learning Outcomes

- Recognise common palliative care emergencies
 - Consider actions to be taken to anticipate and manage these situations
 - Consider own role in these situations
 - Anticipate and plan for emergencies and feel more confident about managing palliative care emergencies
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What medical emergencies have you come across in palliative care?

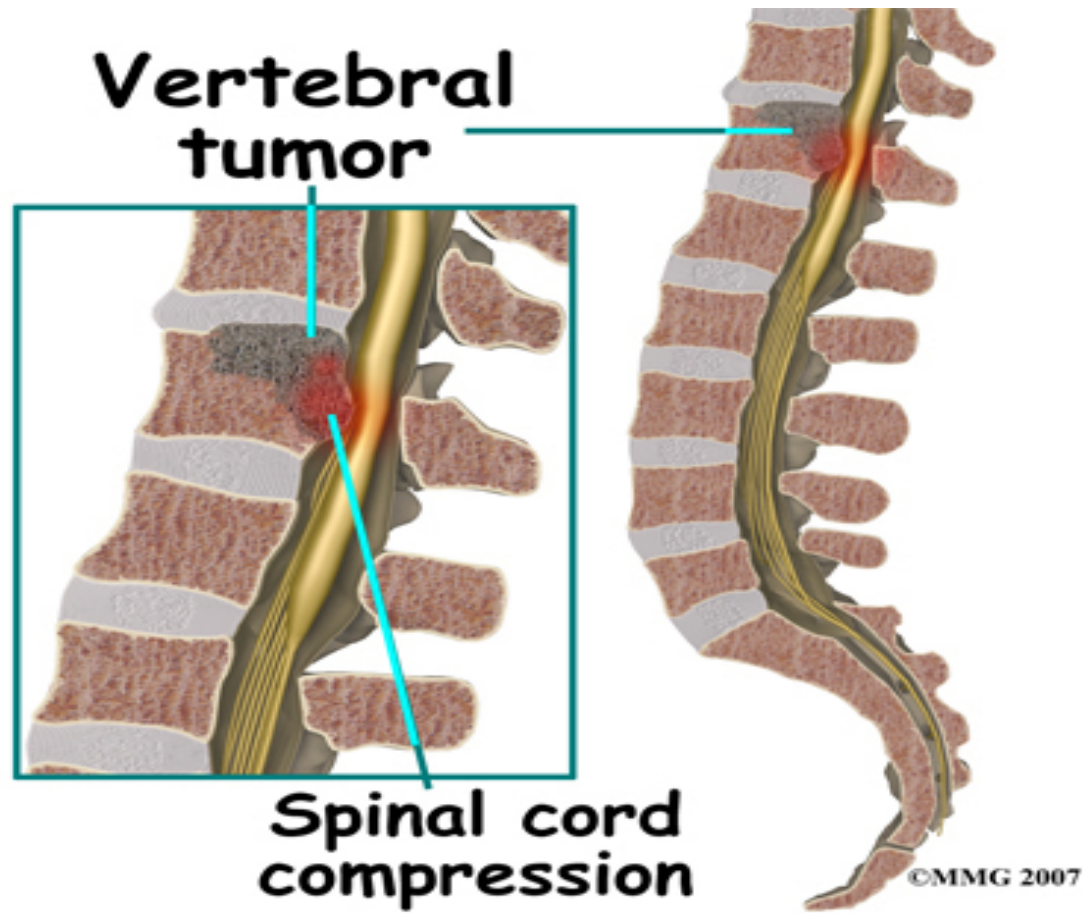


What medical emergencies have you come across in palliative care?

- Malignant Spinal Cord Compression (MSCC)
- Hypercalcaemia
- Superior Vena Caval Obstruction (SVCO)
- Neutropenic Sepsis
- Sepsis
- Opioid Toxicity
- Terminal Haemorrhage
- Convulsions
- Stridor

..... And almost anything else!

Malignant Spinal Cord Compression



MSCC

- MSCC is defined as:
‘spinal cord or cauda equina compression by direct pressure and / or induction of vertebral collapse or instability by metastatic spread or direct extension of malignancy that threatens or causes neurological disability’
(NICE 2014)

Visit NICE website for more info <http://www.nice.org.uk/guidance/qs56>
<http://www.nice.org.uk/guidance/cg75>

MSCC cont.

Incidence of MSCC in England unknown because cases are not systematically recorded. However post-mortem evidence indicates that it is present in 5-10% of people with advanced cancer.

Adults with breast, lung and/or prostate cancer account for more than 50% of MSCC diagnoses although any type of cancer can spread to the bones of the spine including renal, lymphoma and myeloma.

Research has shown that 77% of people diagnosed with MSCC have an established diagnosis of cancer and 23% of people present with MSCC as their first presentation of their malignancy (NICE cg2008)



Symptoms

Symptoms suggestive of spinal metastases

- Pain in the thoracic or cervical spine
- Progressive lumbar spinal pain
- Severe unremitting spinal pain
- Spinal pain aggravated by straining
- Localised spinal tenderness
- Nocturnal spinal pain preventing sleep
- Band like pain around the thorax, abdomen or leg(s)

Neurological symptoms or signs suggestive of MSCC

- Radicular pain
- Limb weakness
- Difficulty walking
- Sensory loss
- Bladder or bowel dysfunction
- signs of spinal cord or cauda equina compression

Treatment

- URGENT MRI of whole spine
- Urgent discussion with local Oncology Team
- Steroids: Dexamethasone 16mgs daily
- Radiotherapy
- Surgery – few may be appropriate
- Chemotherapy - some

Psychological support to patient and family.

Pain control

Positioning and stabilising spine – log rolling

Management of bowel and bladder function / pressure area care



Outcome

- **TIMING** – MSCC is an oncological emergency.
- If treated before developing neurological signs 70% positive effect
- If treated after developing paraplegia 5%!!

- Waiting for signs of compression is too late
- Need to have ‘prevent the preventable’ approach

- Patients at potential risk of developing MSCC should be given information leaflet explaining what symptoms to look for and what to do if symptoms develop.

Hypercalcaemia

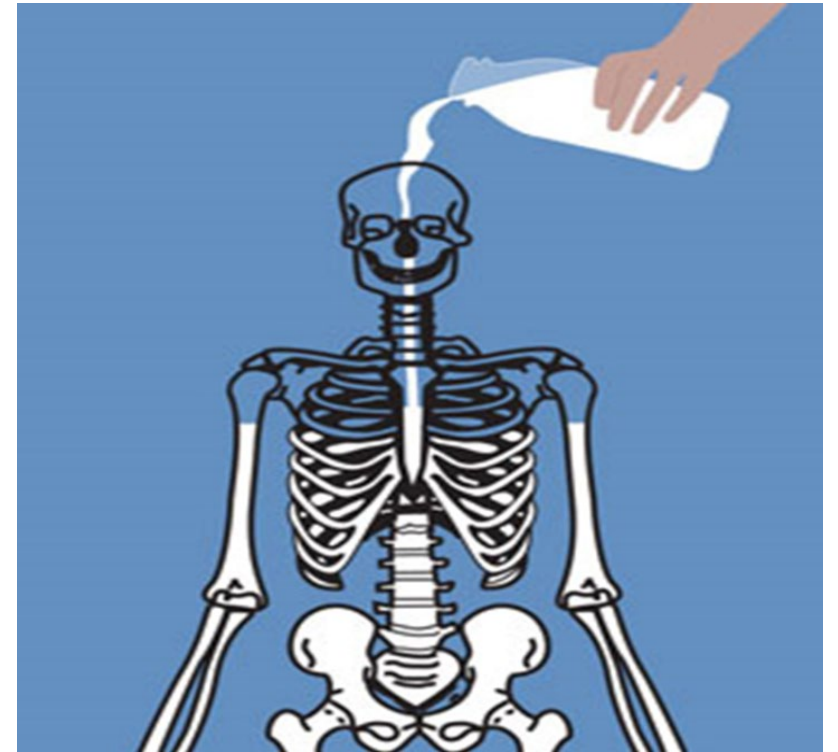
- The main sites of calcium homeostasis are bone, kidney and GI tract.
- Over 90% of calcium in the body is within the bone and this acts as the body's calcium reservoir.
- Approx. 60% of serum calcium is filtered as it goes through the kidneys. Some Ca^+ is reabsorbed and the rest excreted. The amount reabsorbed is controlled by the parathyroid hormone and Vitamin D.
- Normal Ca^+ levels are between 2.2 and 2.6mmol/l (corrected).
- Hypercalcaemia occurs as a result of increased osteoclastic activity (which releases calcium from bone) and decreased excretion of urinary calcium.
- A corrected plasma calcium concentration >2.6 mmol/l defines hypercalcaemia.

Hypercalcaemia


Commonest life threatening metabolic disorder associated with cancer. Occurs in 10-20% of patients with malignant disease (especially breast cancer, squamous cell carcinoma, small cell carcinoma, renal cell carcinoma and myeloma); can occur in the absence of bone metastases.

Complex process of:

- Increased osteoclastic bone resorption
- Decreased renal clearance of calcium
- Enhanced calcium absorption from gut



Symptoms

- Confusion & drowsiness
 - Anorexia
 - Nausea & Vomiting
 - Constipation
 - Polyuria
 - Polydipsia
 - Dehydration
 - Weakness / Fatigue
 - Cardiac arrhythmias
 - Coma/ Death
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Management

- Hypercalcaemia is often a poor prognostic sign and therefore it may not be appropriate to treat in the last few days of life
- Correct dehydration (oral fluids / SC /IV fluids)
- Control of nausea vomiting
- IV Bisphosphonates (zoledronic acid, pamidronate or ibandronate)
 - Help reduce breakdown of bone & strengthen existing bone by reducing activity of osteoclasts which increase bone breakdown
 - Dose may need to be adjusted depending on renal function
 - Effect seen within 3-5 days
 - Repeat blood tests within 4 weeks as the effect usually temporary

Support for patient and family as confusion can be very distressing



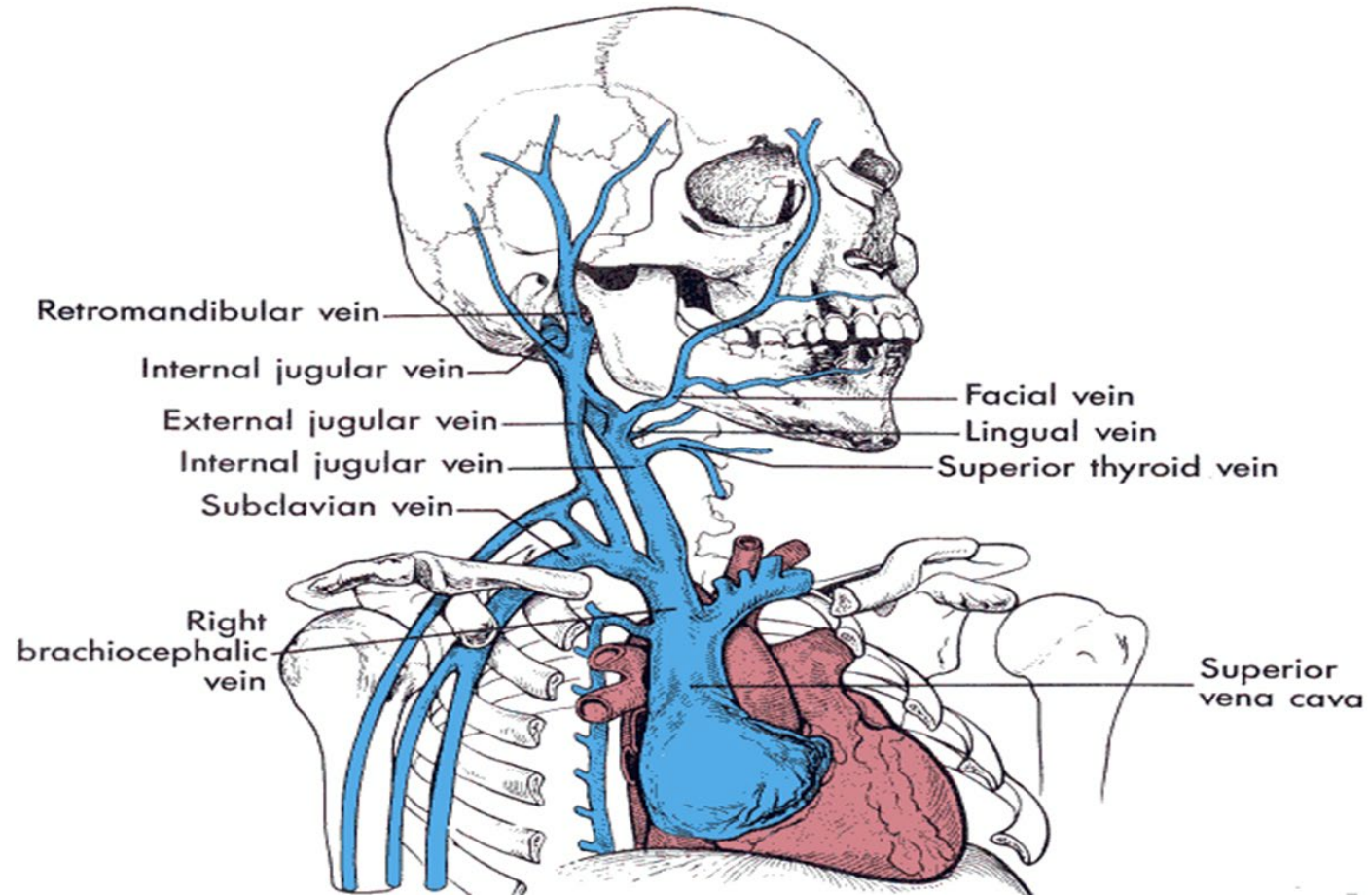
Superior Vena Cava Obstruction (SVCO)

- The Superior Vena Cava (SVC) is a large vein that carries blood from the body straight to the heart. It lies in the middle of the chest behind the sternum.
- Superior vena cava obstruction occurs when something blocks the blood from flowing along the SVC. The walls of the SVC are thin, meaning they are easily compressed.
- Lung cancer is the main cause ($\cong 15\%$), also associated with lymphomas
- It is often from a tumour in the region of the right bronchus or mediastinal lymph nodes.
- May occur as a result of Dxt, CVC's, thrombosis.


Without treatment SVCO can progress & be fatal within days.




Superior Vena Cava Obstruction (SVCO)



Signs & Symptoms

- Engorged blood vessels (chest, neck, arms)
 - Face & upper torso colour change – red / purple
 - Facial, neck and arm swelling
 - Breathlessness and respiratory distress (laryngeal oedema)
 - Stridor
 - Headache (cerebral oedema) and visual changes
 - Dizziness
 - Pain
 - Anxiety
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Management of SVCO

- Be aware of the signs and symptoms and report promptly so team can consider whether patient would benefit from emergency investigation / treatment
 - Consider appropriateness – stage of disease
 - Treatment in hospital or symptom management (wishes of patient / family)
 - High dose corticosteroids (16mgs daily)
 - Positioning – sit patient upright and give oxygen if respiratory distress
 - Furosemide
 - Emergency Dxt or chemotherapy
 - Intraluminal stent
 - Thromboprophylaxis
 - Management of anxiety / pain
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Additional considerations

Prognosis is poor in a patient presenting with advanced SVCO unless the primary cancer is responsive to radiotherapy or chemotherapy.

Consider:

- Could the treatment cause more distress
 - What is the feasibility & availability of treatment
 - Is the condition reversible
 - Ethical considerations – just because you can doesn't mean you should!
 - Psychological and emotional support
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Neutropenic Sepsis

Why does neutropenic sepsis occur?

Chemotherapy works by interfering with cell division; it has little effect on mature cells, but targets new cells being produced which are undergoing cell division.

Chemotherapy is not specific to cancer cells.

Neutrophils are granulocytes produced in the bone marrow. It is the body's first line defence against bacterial infection.

Neutropenia is defined as an absolute neutrophil count (ANC) of $<500/\text{mm}^3$ or a count of $<1000/\text{mm}^3$ predicted to drop further, although following chemotherapy anything below $1000/\text{mm}^3$ would be considered significant if a patient presented feeling unwell.

Neutropenia is associated with an increased risk of potentially life-threatening infection

Signs & Symptoms

Early stage

Signs and symptoms can be vague.

- Generally unwell, sometimes with flu like symptoms
- May have nausea or diarrhoea
- Sometimes cold and shivery
- May have a temperature although not always the case (10-15% of cases exhibit hypothermia)
- Will often look well; will be alert and orientated; feel warm and be well perfused
- May have a slight tachycardia and slight hypotension

Late Stage

Deterioration can be rapid

- Change in conscious level – apprehension, confusion, withdrawal, coma
- Changes to mental state due to hypoxia, cerebral oedema and metabolic disorders
- Hyperthermia, tachycardia & severe hypotension
- Mottled skin colour
- Feels cold & clammy
- Urine output reduced – beginning of organ failure

Organ dysfunction occurs from the direct effect of the inflammatory mediators and microbial toxins, as well as decreased tissue perfusion.

Prolonged failure of 3 or more organs correlates with a mortality rate of 70% or more.

Time critical!

Management

- Early recognition of signs, symptoms, risk and possible source of infection
 - Rapid assessment
 - Report findings promptly as neutropenic sepsis is an acute medical emergency.
 - Oncology centre referral - 24 hour emergency helpline
 - Start empirical antibiotic therapy – IV Piperacillin / Tazobactam
 - Transfer – reverse barrier nurse
 - Emergency care protocol
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